BRUHATH BANGALORE MAHANAGARA PALIKE
Byatarayanapura Division

Name of the work: Improvements to Roads and Drains at Jakkur Layout, BGS Layout, and Surrounding Areas in Ward No 7 Thanisandra, Byatarayanapura Sub Divison.

TEJUS
CONSULTANTS

TEST REPORT

Clients	Bruhat Bangalore Mahanagara Palike
Project	Improvements to Roads and Drains at Jakkur Layout, BGS Layout, and Surrounding Areas in Ward No 7 Thanisandra, Byatarayanapura Sub Divison.
Consultants	TEJUS CONSULTANTS Basaveshwar Nagar Bangalore
Contractor	M/s.Ram and Company
Total Weight in gr	3000

SIEVE ANALYSIS

Type of Material	40 mm down size			Proposed Use	PCC
Sample Location	At Site			Date of Sampling	15.02.18
				Date of Testing	15.02.18
IS Sieve Size	Weight Retained in gm	Cum. Weight Retained in gm	Cumulative Weight Retained in %	Cumulative Weight Passing in %	Specific Limits as per IS 383-1970 (RA-2007) % of Passing For Graded Aggregate of Nominal Size
80.00mm	0	0	0.00	100.00	100
63.00mm	0	0	0.00	100.00	-
40.00mm	102	102	3.40	96.60	95-100
20.00mm	1470	1572	52.40	47.60	30-70
10.00mm	642	2214	73.80	26.20	10-35
4.75mm	730	2944	98.13	1.87	0-5
Pan	56	3000	100.00	0.00	
Remarks :	Satisfactory / Not Satisfactory				

Consultant's Representative

AE(Civil)

Assistant Executive Engineer
Kodigehalli Sub Division
Bruhat Bangalore Mahanagara Palike
Bangalore - 560 092

RAM & COMPANY

TEJUS
CONSULTANTS

TEST REPORT

Clients	Bruhat Bangalore Mahanagara Palike
Project	Improvements to Roads and Drains at Jakkur Layout, BGS Layout, and Surrounding Areas in Ward No 7 Thanisandra, Byatarayanapura Sub Divison.
Consultants	TEJUS CONSULTANTS Basaveshwar Nagar Bangalore
Contractor	M/s.Ram and Company
Total Weight in g	3000

SIEVE ANALYSIS

Type of Material	40 mm down size	Proposed Use	PCC
Sample Location	At Site	Date of Sampling	15.02.18
		Date of Testing	15.02.18

IS Sieve Size	Weight Retained in gm	Cum. Weight Retained in gm	Cumulative Weight Retained in %	Cumulative Weight Passing in %	Specific Limits as per IS 383-1970 (RA-2007) % of Passing For Graded Aggregate of Nominal Size
80.00mm	0	0	0.00	100.00	100
63.00mm	0	0	0.00	100.00	-
40.00mm	104	104	3.47	96.53	95-100
20.00mm	1474	1578	52.60	47.40	30-70
10.00mm	646	2224	74.13	25.87	10-35
4.75mm	728	2952	98.40	1.60	0-5
Pan	48	3000	100.00	0.00	

Remarks : Satisfactory / Not Satisfactory

Consultant's Representative

TEJUS CONSULTANTS

AE (NL)

Assistant Executive Engineer
Kodigehalli Sub Division
Bruhat Bangalore Mahanagara Palike
Bangalore - 560 092

M/S RAM & COMPANY

TEJUS
CONSULTANTS

Test Report on Cement

Project	Improvements to Roads and Drains at Jakkur Layout, BGS Layout, and Surrounding Areas in Ward No 7 Thanisandra, Byatarayanapura Sub Divison.
Client	Bruhat Bangalore Mahanagar Palike
Consultant	TEJUS CONSULTANTS
Contractor	M/s.Ram and Company
Sample ID	Cement
Date of Sample Tested	15.02.18
Sample Supplied By	Agency

Sl.No.	Descriptions	Test Method as per IS	Test Result	Requirements as per IS: 12269-1987
1	a) Initial Setting Time	IS-4031 (Part-5)	37 Minutes	Not Less than 30 Minutes
	b) Final Setting Time	IS-4031 (Part-5)	389 Minutes	Not More than 600 Minutes
2	Soundness	IS-4031 (Part-3) By the Le-Chatelier method	7 mm	Not More than 10 mm
3	Standard Consistency	IS-4031 (Part-4)	27.00%	

AE (Ltr)

Assistant Executive Engineer
Kodigehalli Sub Division
Bruhat Bangalore Mahanagara Palike
Bangalore - 560 092

TEJUS CONSULTANTS

M/S RAM & COMPANY

TEJUS
CONSULTANTS

Test Report on Cement

Project	Improvements to Roads and Drains at Jakkur Layout, BGS Layout, and Surrounding Areas in Ward No 7 Thanisandra, Byatarayanapura Sub Divison.
Client	Bruhat Bangalore Mahanagar Palike
Consultant	TEJUS CONSULTANTS
Contractor	M/s.Ram and Company
Sample ID	Cement
Date of Sample Tested	15.02.18
Sample Supplied By	Agency

Sl.No.	Descriptions	Test Method as per IS	Test Result	Requirements as per IS: 12269-1987
1	a) Initial Setting Time	IS-4031 (Part-5)	40 Minutes	Not Less than 30 Minutes
	b) Final Setting Time	IS-4031 (Part-5)	398 Minutes	Not More than 600 Minutes
2	Soundness	IS-4031 (Part-3) By the Le-Chatelier method	8 mm	Not More than 10 mm
3	Standard Consistency	IS-4031 (Part-4)	28.00%	

AE(W)

Assistant Executive Engineer
Kodigehalli Sub Division
Bruhat Bangalore Mahanagara Palike
Bangalore - 560 092

TEJUS CONSULTANTS

M/S RAM & COMPANY

TEJUS
CONSULTANTS

TEST REPORT

Clients	BRUHAT BENGALORE MAHANAGARA PALIKE
Project	Improvements to Roads and Drains at Jakkur Layout, BGS Layout, and Surrounding Areas in Ward No 7 Thanisandra, Byatarayanapura Sub Divison
Consultants	TEJUS CONSULTANTS Basaveshwar Nagar Bangalore
Contractor	M/s.Ram and Company

SPECIFIC GRAVITY AND WATER ABSORPTION

FINE AGGREGATE (IS-2386-PART-3)

Type of Material	**Sand/M sand**	**Proposed Use**	Concrete
Location/Source	**At Plant/site**	**Date of Sampling**	15.02.18
Period of Soaking	**24 hours**	**Date of Testing**	15.02.18

Sl. No.	Test Property	TRIAL - 1	TRIAL - 2	TRIAL - 3	Average
A	Weight of sturated surface dry sample gm.	681	682	695	
B	Weight of oven - dry sample gm.	673	674	687	
C	Weight of Pycnometer Filled with water gm	1275	1275	1275	
D	Weight of Pycnometer + sample + water gm	1702	1703	1712	
E	Bulk specific gravity $\frac{B}{(C+A-D)}$	2.650	2.654	2.663	**2.655**
G	Absorption (%) $\frac{(A-B)*100}{B}$	1.189	1.187	1.164	**1.180**

A.E (W)

Assistant Executive Engineer
Kodigehalli Sub Division
Bruhat Bangalore Mahanagara Palike
Bangalore - 560 092

TEJUS CONSULTANTS

M/S RAM & COMPANY

TEST REPORT

Clients	Bruhat Bangalore Mahanagara Palike
Project	Improvements to Roads and Drains at Jakkur Layout, BGS Layout, and Surrounding Areas in Ward No 7 Thanisandra, Byatarayanapura Sub Divison.
Consultants	TEJUS CONSULTANTS Basaveshwar Nagar Bangalore
Contractor	M/s.Ram and Company

SIEVE ANALYSIS

Total Weight:	**3000** gms				
Type of Material	**Fine aggregate (River Sand/M sand)**		**Proposed Use**	Concrete	
Sample Location	At Plant/site		**Date of Sampling**	15.02.18	
			Date of Testing	15.02.18	
IS Sieve Size	**Weight Retained**	**Cum. Weight Retained**	**Cum. % Retained**	**Cum. % Passing**	**Spec. Limit (%) Passing (Zone-II)**
10.00 mm	0	0	0	100.00	**100**
4.75 mm	245	245	8.17	91.83	**90 - 100**
2.36 mm	285	530	17.67	82.33	**75 - 100**
1.18 mm	525	1055	35.17	64.83	**55 - 90**
0.600 mm	485	1540	51.33	48.67	**35 -59**
0.300 mm	625	2165	72.17	27.83	**8-30**
0.150 mm	585	2750	91.67	8.33	**0 - 10**
Pan	250	3000			-
Remarks :			Satisfactory / Not Satisfactory		

Consultant's Representative

AE(WZ)

TEJUS CONSULTANTS

M/s RAM & COMPANY

TEJUS
CONSULTANTS

TEST REPORT

Clients	BRUHAT BENGALORE MAHANAGARA PALIKE
Project	Improvements to Roads and Drains at Jakkur Layout, BGS Layout, and Surrounding Areas in Ward No 7 Thanisandra, Byatarayanapura Sub Divison
Consultants	TEJUS CONSULTANTS Basaveshwar Nagar Bangalore
Contractor	M/s.Ram and Company

SPECIFIC GRAVITY AND WATER ABSORPTION
FINE AGGREGATE (IS-2386-PART-3)

Type of Material	**Sand/M sand**	**Proposed Use**	Concrete
Location/Source	**At Plant/site**	**Date of Sampling**	15.02.18
Period of Soaking	**24 hours**	**Date of Testing**	15.02.18

Sl. No.	Test Property	TRIAL - 1	TRIAL - 2	TRIAL - 3	Average
A	Weight of sturated surface dry sample gm.	688	683	690	
B	Weight of oven - dry sample gm.	679	672	685	
C	Weight of Pycnometer Filled with water gm	1275	1275	1275	
D	Weight of Pycnometer + sample + water gm	1708	1706	1708	
E	Bulk specific gravity $\frac{B}{(C+A-D)}$	2.663	2.667	2.665	**2.665**
G	Absorption (%) $\frac{(A-B)*100}{B}$	1.325	1.637	0.730	**1.231**

Assistant Executive Engineer
Kodigehalli Sub Division
Bruhat Bangalore Mahanagara Palike
Bangalore - 560 092

TEJUS CONSULTANTS

M/S. RAM & COMPANY

TEST REPORT

Clients	Bruhat Bangalore Mahanagara Palike
Project	Improvements to Roads and Drains at Jakkur Layout, BGS Layout, and Surrounding Areas in Ward No 7 Thanisandra, Byatarayanapura Sub Divison.
Consultants	TEJUS CONSULTANTS Basaveshwar Nagar Bangalore
Contractor	M/s.Ram and Company

SIEVE ANALYSIS

Total Weight:	**3000** gms				
Type of Material	**Fine aggregate (River Sand/M sand)**		**Proposed Use**	Concrete	
Sample Location	At Plant/site		**Date of Sampling**	15.02.18	
			Date of Testing	15.02.18	
IS Sieve Size	**Weight Retained**	**Cum. Weight Retained**	**Cum. % Retained**	**Cum. % Passing**	**Spec. Limit (%) Passing (Zone-II)**
10.00 mm	0	0	0	100.00	**100**
4.75 mm	247	247	8.23	91.77	**90 - 100**
2.36 mm	287	534	17.80	82.20	**75 - 100**
1.18 mm	527	1061	35.37	64.63	**55 - 90**
0.600 mm	489	1550	51.67	48.33	**35 -59**
0.300 mm	628	2178	72.60	27.40	**8-30**
0.150 mm	589	2767	92.23	7.77	**0 - 10**
Pan	233	3000			**-**
Remarks :	Satisfactory / Not Satisfactory				

Consultant's Representative

AE (Tej)

Assistant Executive Engineer
Kodigehalli Sub Division
Bruhat Bangalore Mahanagara Palike
Bangalore - 560 092

TEJUS CONSULTANTS

M/S. RAM & COMPANY

TEJUS
CONSULTANTS

TEST REPORT

Clients	**Bruhat Bangalore Mahanagara Palike**
Project	**Improvements to Roads and Drains at Jakkur Layout, BGS Layout, and Surrounding Areas in Ward No 7 Thanisandra, Byatarayanapura Sub Divison.**
Consultants	**TEJUS CONSULTANTS Basaveshwar Nagar Bangalore**
Contractor	**M/s.Ram and Company**
Total Weight in g	**3000**

SIEVE ANALYSIS

Type of Material	40 mm down size	**Proposed Use**	PCC
Sample Location	At Site	**Date of Sampling**	17.02.18
		Date of Testing	17.02.18

IS Sieve Size	Weight Retained in gm	Cum. Weight Retained in gm	Cumulative Weight Retained in %	Cumulative Weight Passing in %	Specific Limits as per IS 383-1970 (RA-2007) % of Passing For Graded Aggregate of Nominal Size
80.00mm	0	0	0.00	100.00	100
63.00mm	0	0	0.00	100.00	-
40.00mm	105	105	3.50	96.50	95-100
20.00mm	1477	1582	52.73	47.27	30-70
10.00mm	649	2231	74.37	25.63	10-35
4.75mm	732	2963	98.77	1.23	0-5
Pan	37	3000	100.00	0.00	

Remarks : Satisfactory / Not Satisfactory

Consultant's Representative

TEJUS CONSULTANTS

AE(Ly)

Assistant Executive Engineer
Kodigehalli Sub Division
Bruhat Bangalore Mahanagara Palike
Bangalore - 560 092

M/s. RAM & COMPANY

TEJUS
CONSULTANTS

TEST REPORT

Clients	Bruhat Bangalore Mahanagara Palike
Project	Improvements to Roads and Drains at Jakkur Layout, BGS Layout, and Surrounding Areas in Ward No 7 Thanisandra, Byatarayanapura Sub Divison.
Consultants	TEJUS CONSULTANTS Basaveshwar Nagar Bangalore
Contractor	M/s.Ram and Company
Total Weight in g	3000

SIEVE ANALYSIS

Type of Material	40 mm down size	Proposed Use	PCC
Sample Location	At Site	Date of Sampling	17.02.18
		Date of Testing	17.02.18

IS Sieve Size	Weight Retained in gm	Cum. Weight Retained in gm	Cumulative Weight Retained in %	Cumulative Weight Passing in %	Specific Limits as per IS 383-1970 (RA-2007) % of Passing For Graded Aggregate of Nominal Size
80.00mm	0	0	0.00	100.00	100
63.00mm	0	0	0.00	100.00	-
40.00mm	109	109	3.63	96.37	95-100
20.00mm	1480	1589	52.97	47.03	30-70
10.00mm	659	2248	74.93	25.07	10-35
4.75mm	722	2970	99.00	1.00	0-5
Pan	30	3000	100.00	0.00	

Remarks : Satisfactory / Not Satisfactory

Consultant's Representative

TEJUS CONSULTANTS

Assistant Executive Engineer
Kodigehalli Sub Division
Bruhat Bangalore Mahanagara Palike
Bangalore - 560 092

M/s. RAM & COMPANY

TEJUS
CONSULTANTS

Test Report on Cement

Project	Improvements to Roads and Drains at Jakkur Layout, BGS Layout, and Surrounding Areas in Ward No 7 Thanisandra, Byatarayanapura Sub Divison.
Client	Bruhat Bangalore Mahanagar Palike
Consultant	TEJUS CONSULTANTS
Contractor	M/s.Ram and Company
Sample ID	Cement
Date of Sample Tested	17.02.18
Sample Supplied By	Agency

Sl.No.	Descriptions	Test Method as per IS	Test Result	Requirements as per IS: 12269-1987
1	a) Initial Setting Time	IS-4031 (Part-5)	46 Minutes	Not Less than 30 Minutes
	b) Final Setting Time	IS-4031 (Part-5)	402 Minutes	Not More than 600 Minutes
2	Soundness	IS-4031 (Part-3) By the Le-Chatelier method	6 mm	Not More than 10 mm
3	Standard Consistency	IS-4031 (Part-4)	28.00%	

AE(W2)

Assistant Executive Engineer
Kodigehalli Sub Division
Bruhat Bangalore Mahanagara Palike
Bangalore - 560 092

TEJUS CONSULTANTS

M/S RAM & COMPANY

TEJUS
CONSULTANTS

Test Report on Cement

Project	Improvements to Roads and Drains at Jakkur Layout, BGS Layout, and Surrounding Areas in Ward No 7 Thanisandra, Byatarayanapura Sub Divison.
Client	Bruhat Bangalore Mahanagar Palike
Consultant	TEJUS CONSULTANTS
Contractor	M/s.Ram and Company
Sample ID	Cement
Date of Sample Tested	17.02.18
Sample Supplied By	Agency

Sl.No.	Descriptions	Test Method as per IS	Test Result	Requirements as per IS: 12269-1987
1	a) Initial Setting Time	IS-4031 (Part-5)	43 Minutes	Not Less than 30 Minutes
	b) Final Setting Time	IS-4031 (Part-5)	399 Minutes	Not More than 600 Minutes
2	Soundness	IS-4031 (Part-3) By the Le-Chatelier method	8 mm	Not More than 10 mm
3	Standard Consistency	IS-4031 (Part-4)	27.00%	

AE(WS)

Assistant Executive Engineer
Kodigehalli Sub Division
Bruhat Bangalore Mahanagara Palike
Bangalore - 560 092

TEJUS CONSULTANTS

M/S RAM & COMPANY

TEJUS
CONSULTANTS

TEST REPORT

Clients	BRUHAT BENGALORE MAHANAGARA PALIKE
Project	Improvements to Roads and Drains at Jakkur Layout, BGS Layout, and Surrounding Areas in Ward No 7 Thanisandra, Byatarayanapura Sub Divison
Consultants	TEJUS CONSULTANTS Basaveshwar Nagar Bangalore
Contractor	M/s.Ram and Company

SPECIFIC GRAVITY AND WATER ABSORPTION
FINE AGGREGATE (IS-2386-PART-3)

Type of Material	**Sand/M sand**	**Proposed Use**	Concrete
Location/Source	**At Plant/site**	**Date of Sampling**	17.02.18
Period of Soaking	**24 hours**	**Date of Testing**	17.02.18

Sl. No.	Test Property	TRIAL - 1	TRIAL - 2	TRIAL - 3	Average
A	Weight of sturated surface dry sample gm.	689	684	691	
B	Weight of oven - dry sample gm.	680	673	686	
C	Weight of Pycnometer Filled with water gm	1275	1275	1275	
D	Weight of Pycnometer + sample + water gm	1708	1706	1707	
E	Bulk specific gravity $\frac{B}{(C+A-D)}$	2.656	2.660	2.649	**2.655**
G	Absorption (%) $\frac{(A-B)*100}{B}$	1.324	1.634	0.729	**1.229**

AE(W7)

Assistant Executive Engineer
Kodigehalli Sub Division
Bruhat Bangalore Mahanagara Palike

TEJUS CONSULTANTS

M/s. RAM & COMPANY

TEST REPORT

Clients	Bruhat Bangalore Mahanagara Palike
Project	Improvements to Roads and Drains at Jakkur Layout, BGS Layout, and Surrounding Areas in Ward No 7 Thanisandra, Byatarayanapura Sub Divison.
Consultants	TEJUS CONSULTANTS Basaveshwar Nagar Bangalore
Contractor	M/s.Ram and Company

SIEVE ANALYSIS

Total Weight:	**3000** gms				
Type of Material	**Fine aggregate (River Sand/M sand)**		**Proposed Use**	Concrete	
Sample Location	At Plant/site		**Date of Sampling**	17.02.18	
			Date of Testing	17.02.18	
IS Sieve Size	**Weight Retained**	**Cum. Weight Retained**	**Cum. % Retained**	**Cum. % Passing**	**Spec. Limit (%) Passing (Zone-II)**
10.00 mm	0	0	0	100.00	**100**
4.75 mm	250	250	8.33	91.67	**90 - 100**
2.36 mm	290	540	18.00	82.00	**75 - 100**
1.18 mm	529	1069	35.63	64.37	**55 - 90**
0.600 mm	490	1559	51.97	48.03	**35 -59**
0.300 mm	629	2188	72.93	27.07	**8-30**
0.150 mm	590	2778	92.60	7.40	**0 - 10**
Pan	222	3000			-
Remarks :			Satisfactory / Not Satisfactory		

AE(Lab)

Consultant's Representative

TEJUS CONSULTANTS

M/S RAM & COMPANY

TEJUS
CONSULTANTS

TEST REPORT

Clients	BRUHAT BENGALORE MAHANAGARA PALIKE
Project	Improvements to Roads and Drains at Jakkur Layout, BGS Layout, and Surrounding Areas in Ward No 7 Thanisandra, Byatarayanapura Sub Divison
Consultants	TEJUS CONSULTANTS Basaveshwar Nagar Bangalore
Contractor	M/s.Ram and Company

SPECIFIC GRAVITY AND WATER ABSORPTION

FINE AGGREGATE (IS-2386-PART-3)

Type of Material	**Sand/M sand**	**Proposed Use**	Concrete
Location/Source	**At Plant/site**	**Date of Sampling**	17.02.18
Period of Soaking	**24 hours**	**Date of Testing**	17.02.18

Sl. No.	Test Property	TRIAL - 1	TRIAL - 2	TRIAL - 3	Average
A	Weight of sturated surface dry sample gm.	690	686	690	
B	Weight of oven - dry sample gm.	682	675	687	
C	Weight of Pycnometer Filled with water gm	1275	1275	1275	
D	Weight of Pycnometer + sample + water gm	1708	1708	1706	
E	Bulk specific gravity $\frac{B}{(C+A-D)}$	2.654	2.668	2.653	**2.658**
G	Absorption (%) $\frac{(A-B)*100}{B}$	1.173	1.630	0.437	**1.080**

AE(WT)

Assistant Executive Engineer
Kodigehalli Sub Division
Bruhat Bangalore Mahanagara Palike
Bangalore - 560 092

TEJUS CONSULTANTS

M/S RAM & COMPANY

TEST REPORT

Clients	Bruhat Bangalore Mahanagara Palike
Project	Improvements to Roads and Drains at Jakkur Layout, BGS Layout, and Surrounding Areas in Ward No 7 Thanisandra, Byatarayanapura Sub Divison.
Consultants	TEJUS CONSULTANTS Basaveshwar Nagar Bangalore
Contractor	M/s.Ram and Company

SIEVE ANALYSIS

Total Weight:	**3000** gms				
Type of Material	**Fine aggregate (River Sand/M sand)**		**Proposed Use**	Concrete	
Sample Location	At Plant/site		**Date of Sampling**	17.02.18	
			Date of Testing	17.02.18	
IS Sieve Size	**Weight Retained**	**Cum. Weight Retained**	**Cum. % Retained**	**Cum. % Passing**	**Spec. Limit (%) Passing (Zone-II)**
10.00 mm	0	0	0	100.00	**100**
4.75 mm	250	250	8.33	91.67	**90 - 100**
2.36 mm	290	540	18.00	82.00	**75 - 100**
1.18 mm	529	1069	35.63	64.37	**55 - 90**
0.600 mm	490	1559	51.97	48.03	**35 -59**
0.300 mm	629	2188	72.93	27.07	**8-30**
0.150 mm	590	2778	92.60	7.40	**0 - 10**
Pan	222	3000			-
Remarks :			Satisfactory / Not Satisfactory		

Consultant's Representative

Assistant Executive Engineer
Kodigehalli Sub Division
Bruhat Bangalore Mahanagara Palike
Bangalore - 560 092

M/s. RAM & COMPANY

CIVIL XPERTS
ISO 9001:2015
CONSULTANTS & TESTING CENTER

174, Sri Ranga Complex
Amrutha Nagar Main Road
New Bank Colony, Konanakunte
Bangalore - 560 062.
Mobile : +91 97429 59595
Tele/Fax : 080-2632 2565
E-mail : civilexpertsltd@gmail.com
URL : www.civilexperts.in

NABL ACCREDITED AS PER ISO/IEC 17025:2005

Job No.: CECTC-MT-IWD-014-2018-19 Date: 27.02.2018

TEST RESULTS OF PHYSICAL PROPERTIES OF REINFORCEMENT STEEL

Client : **Thejus Consultants, Bruhat Bangalore Mahanagar Palike**
Agency : **M/s. Ram and Company, Engineers & Contractors.**
Name of Work : Improvements to Roads and Drains at Jakkur Layout, BGS Layout, and Surrounding Areas in Ward No 6 Thanisandra, Byatarayanapura Sub Divison.
Sample Identification : 10mm, 12mm TMT Bars
Technical Reference : IS 1786:2008, IS 1608:2005, IS 1599:1985 (Reaffirmed 2006)
Date of test: : 27.02.2018

SL. No	Nominal size (dia in mm)	Mass per metre (kg/metre)	TENSILE STRENGTH		
			0.20 % proof stress/ yield stress ($N/mm^{2)}$	Tensile strength ($N/mm^{2)}$	Elongation, percent on gauge length
2	10	0.620	529	563	19
3	12	0.887	552	585	20

Note:
1. The report shall not be reproduced, except in full, without the written approval of the laboratory.
2. The results indicated above are based on the tests carried out on the samples received in the laboratory.
3. Any Query regarding the report must be reported within 15 days from the date of testing.

For Civil Experts
Authorised Signature

Assistant Executive Engineer
Kodigehalli Sub Division
Bruhat Bangalore Mahanagara Palike
Bangalore - 560 092

M/s. RAM & COMPANY

TEJUS
CONSULTANTS

TEST REPORT

Clients	Bruhat Bangalore Mahanagara Palike	
Project	Improvements to Roads and Drains at Jakkur Layout, BGS Layout, and Surrounding Areas in Ward No 7 Thanisandra, Byatarayanapura Sub Divison.	
Consultants	TEJUS CONSULTANTS Basaveshwar Nagar Bangalore	
Contractor	M/s.Ram and Company	
Total Weight:	10000	gms

SIEVE ANALYSIS

Type of Material	12.5 mm down size		Proposed Use	concrete	
Sample Location	Plant		Date of Sampling	02.03.18	
			Date of Testing	02.03.18	
IS Sieve Size (in mm)	Weight Retained	Cum. Weight Retained	Cum. % Retained	Cum. % Passing	Spec. Limit (%) Passing
20.0	0	0	0	100	100
12.5	591	591	5.91	94.09	90-100
10.0	3361	3952	39.52	60.48	40-85
4.75	5496	9448	94.48	5.52	0-10
Pan	552	10000			

Remarks : Satisfactory / Not Satisfactory

AE(W)

TEJUS CONSULTANTS

Consultant's Representative

Assistant Executive Engineer
Kodigehalli Sub Division
Bruhat Bangalore Mahanagara Palike
Bangalore - 560 092

M/s. RAM & COMPANY

TEJUS
CONSULTANTS

Test Report on Cement

Project	Improvements to Roads and Drains at Jakkur Layout, BGS Layout, and Surrounding Areas in Ward No 7 Thanisandra, Byatarayanapura Sub Divison.
Client	Bruhat Bangalore Mahanagar Palike
Consultant	TEJUS CONSULTANTS
Contractor	M/s.Ram and Company
Sample ID	Cement
Date of Sample Tested	02.03.18
Sample Supplied By	Agency

Sl.No.	Descriptions	Test Method as per IS	Test Result	Requirements as per IS: 12269-1987
1	a) Initial Setting Time	IS-4031 (Part-5)	40 Minutes	Not Less than 30 Minutes
	b) Final Setting Time	IS-4031 (Part-5)	392Minutes	Not More than 600 Minutes
2	Soundness	IS-4031 (Part-3) By the Le-Chatelier method	5mm	Not More than 10 mm
3	Standard Consistency	IS-4031 (Part-4)	27.00%	

Consultant Representative

AE(W)

Assistant Executive Engineer
Kodigehalli Sub Division
Bruhat Bangalore Mahanagara Palike
Bangalore - 560 092

TEJUS CONSULTANTS

M/s. RAM & COMPANY

TEJUS
CONSULTANTS

Test Report on Cement

Project	Improvements to Roads and Drains at Jakkur Layout, BGS Layout, and Surrounding Areas in Ward No 7 Thanisandra, Byatarayanapura Sub Divison.
Client	Bruhat Bangalore Mahanagar Palike
Consultant	TEJUS CONSULTANTS
Contractor	M/s.Ram and Company
Sample ID	Cement
Date of Sample Tested	02.03.18
Sample Supplied By	Agency

Sl.No.	Descriptions	Test Method as per IS	Test Result	Requirements as per IS: 12269-1987
1	a) Initial Setting Time	IS-4031 (Part-5)	37 Minutes	Not Less than 30 Minutes
	b) Final Setting Time	IS-4031 (Part-5)	387Minutes	Not More than 600 Minutes
2	Soundness	IS-4031 (Part-3) By the Le-Chatelier method	4mm	Not More than 10 mm
3	Standard Consistency	IS-4031 (Part-4)	28.00%	

Consultant Representative

AE (Wz)

Assistant Executive Engineer
Kodigehalli Sub Division
Bruhat Bangalore Mahanagara Palike
Bangalore - 560 092

TEJUS CONSULTANTS

M/S RAM & COMPANY

TEJUS
CONSULTANTS

TEST REPORT

Clients	Bruhat Bangalore Mahanagara Palike
Project	Improvements to Roads and Drains at Jakkur Layout, BGS Layout, and Surrounding Areas in Ward No 7 Thanisandra, Byatarayanapura Sub Divison.
Consultants	TEJUS CONSULTANTS Basaveshwar Nagar Bangalore
Contractor	M/s.Ram and Company

SIEVE ANALYSIS

Total Weight:	**3000** gms				
Type of Materia	**Fine aggregate (River Sand/M sand)**		**Proposed Use**	Concrete	
Sample Location	At Plant/site		**Date of Sampling**	02.03.18	
			Date of Testing	02.03.18	
IS Sieve Size	**Weight Retained**	**Cum. Weight Retained**	**Cum. % Retained**	**Cum. % Passing**	**Spec. Limit (%) Passing (Zone-II)**
10.00 mm	0	0	0	100.00	**100**
4.75 mm	245	245	8.17	91.83	**90 - 100**
2.36 mm	276	521	17.37	82.63	**75 - 100**
1.18 mm	517	1038	34.60	65.40	**55 - 90**
0.600 mm	545	1583	52.77	47.23	**35 -59**
0.300 mm	662	2245	74.83	25.17	**8-30**
0.150 mm	515	2760	92.00	8.00	**0 - 10**
Pan	240	3000			-
Remarks :			Satisfactory / Not Satisfactory		

Consultant's Representative

AE(W7)

Assistant Executive Engineer
Kodigehalli Sub Division
Bruhat Bangalore Mahanagara Palike
Bangalore - 560 092

TEJUS CONSULTANTS

M/s. RAM & COMPANY

TEJUS
CONSULTANTS

TEST REPORT

Clients	BRUHAT BENGALORE MAHANAGARA PALIKE
Project	Improvements to Roads and Drains at Jakkur Layout, BGS Layout, and Surrounding Areas in Ward No 7 Thanisandra, Byatarayanapura Sub Divison.
Consultants	TEJUS CONSULTANTS Basaveshwar Nagar Bangalore
Contractor	M/s.Ram and Company

SPECIFIC GRAVITY AND WATER ABSORPTION

FINE AGGREGATE (IS-2386-PART-3)

Type of Material	**Sand/M sand**	**Proposed Use**	Concrete
Location/Source	**At Plant/site**	**Date of Sampling**	02.03.18
Period of Soaking	**24 hours**	**Date of Testing**	02.03.18

Sl. No.	Test Property	TRIAL - 1	TRIAL - 2	TRIAL - 3	Average
A	Weight of sturated surface dry sample gm.	662	663	674	
B	Weight of oven - dry sample gm.	656	658	668	
C	Weight of Pycnometer Filled with water gm	1275	1275	1275	
D	Weight of Pycnometer + sample + water gm	1693	1691	1697	
E	Bulk specific gravity $\frac{B}{(C+A-D)}$	2.689	2.664	2.651	**2.668**
G	Absorption (%) $\frac{(A-B)*100}{B}$	0.915	0.760	0.898	**0.858**

AE (W7)

Assistant Executive Engineer
Kodigehalli Sub Division
Bruhat Bangalore Mahanagara Palike
Bangalore - 560 092

TEJUS CONSULTANTS

M/S RAM & COMPANY

TEJUS
CONSULTANTS

TEST REPORT

Clients	Bruhat Bangalore Mahanagara Palike				
Project	Improvements to Roads and Drains at Jakkur Layout, BGS Layout, and Surrounding Areas in Ward No 7 Thanisandra, Byatarayanapura Sub Divison.				
Consultants	TEJUS CONSULTANTS Basaveshwar Nagar Bangalore				
Contractor	M/s.Ram and Company				
Total Weight:	10000	gms			
SIEVE ANALYSIS					
Type of Material	20 mm down size		**Proposed Use**	Concrete	
Sample Location	At Plant		**Date of Sampling**	02.03.18	
			Date of Testing	02.03.18	
IS Sieve Size	**Weight Retained**	**Cum. Weight Retained**	**Cum. % Retained**	**Cum. % Passing**	**Spec. Limit (%) Passing**
40.00 mm	0	0	0	100	**100**
20.00 mm	275	275	2.75	97.25	**95 - 100**
10.00 mm	4660	4935	49.35	50.65	**25 - 55**
4.75 mm	4535	9470	94.70	5.30	**0 - 10**
Pan	530	10000			
Remarks :	Satisfactory / Not Satisfactory				

Consultant's Representative

AE (W-7)

Assistant Executive Engineer
Kodigehalli Sub Division
Bruhat Bangalore Mahanagara Palike
Bangalore - 560 092

TEJUS CONSULTANTS

M/S RAM & COMPANY

TEJUS
CONSULTANTS

Test report on Compressive strength of concrete cubes

Project	Improvements to Roads and Drains at Jakkur Layout, BGS Layout, and Surrounding Areas in Ward No 7 Thanisandra, Byatarayanapura Sub Divison.
Client	Bruhat Bangalore Mahanagar Palike
Consultant	TEJUS CONSULTANTS
Contractor	M/s.Ram and Company
Grade of concrete:	M20
Size of cube:	150x150x150 mm
Reference IS code:	IS:516-1959

Sl.No.	Date of Casting	Date of testing	Age of Test	Weight of Cube	Area of Cube	Failure load	Compressive strength	Avg. Compressive strength
				Kg	mm^2	KN	N/mm^2	N/mm^2
1	02.03.18	09.03.18	7 days	8.590	22500	298	13.24	13.35
2	02.03.18	09.03.18	7 days	8.710	22500	304	13.51	
3	02.03.18	09.03.18	7 days	8.560	22500	299	13.29	

A.E(W3)

Assistant Executive E
Kodigehalli Sub Division
Bruhat Bangalore Mahanagara Palike
Bangalore - 560 092

TEJUS CONSULTANTS

M/S. RAM & COMPANY

TEJUS
CONSULTANTS

Test report on Compressive strength of concrete cubes

Project	Improvements to Roads and Drains at Jakkur Layout, BGS Layout, and Surrounding Areas in Ward No 7 Thanisandra, Byatarayanapura Sub Divison.
Client	Bruhat Bangalore Mahanagar Palike
Consultant	TEJUS CONSULTANTS
Contractor	M/s.Ram and Company
Grade of concrete:	M20
Size of cube:	150x150x150 mm
Reference IS code:	IS:516-1959

Sl.No.	Date of Casting	Date of testing	Age of Test	Weight of Cube	Area of Cube	Failure load	Compressive strength	Avg. Compressive strength
				Kg	mm^2	KN	N/mm^2	N/mm^2
1	02.03.18	30.03.18	28 days	8.826	22500	455	20.22	20.27
2	02.03.18	30.03.18	28 days	8.860	22500	456	20.27	
3	02.03.18	30.03.18	28 days	8.710	22500	457	20.31	

AE(W)

Assistant Executive Engineer
Kodigehalli Sub Division
Bruhat Bangalore Mahanagara Palike
Bangalore

TEJUS CONSULTANTS

M/S. RAM & COMPANY

TEJUS
CONSULTANTS

Test Report on Cement

Project	Improvements to Roads and Drains at Jakkur Layout, BGS Layout, and Surrounding Areas in Ward No 7 Thanisandra, Byatarayanapura Sub Divison.
Client	Bruhat Bangalore Mahanagar Palike
Consultant	TEJUS CONSULTANTS
Contractor	M/s.Ram and Company
Sample ID	Cement
Date of Sample Tested	03.03.18
Sample Supplied By	Agency

Sl.No.	Descriptions	Test Method as per IS	Test Result	Requirements as per IS: 12269-1987
1	a) Initial Setting Time	IS-4031 (Part-5)	37 Minutes	Not Less than 30 Minutes
	b) Final Setting Time	IS-4031 (Part-5)	387 Minutes	Not More than 600 Minutes
2	Soundness	IS-4031 (Part-3) By the Le-Chatelier method	6mm	Not More than 10 mm
3	Standard Consistency	IS-4031 (Part-4)	28.00%	

Consultant Representative

AE(W)

Assistant Executive Engineer
Kodigehalli Sub Division
Bruhat Bangalore Mahanagara Palike
Bangalore - 560 092

TEJUS CONSULTANTS

M/S RAM & COMPANY

TEJUS
CONSULTANTS

Test Report on Cement

Project	Improvements to Roads and Drains at Jakkur Layout, BGS Layout, and Surrounding Areas in Ward No 7 Thanisandra, Byatarayanapura Sub Divison.
Client	Bruhat Bangalore Mahanagar Palike
Consultant	TEJUS CONSULTANTS
Contractor	M/s.Ram and Company
Sample ID	Cement
Date of Sample Tested	03.03.18
Sample Supplied By	Agency

Sl.No.	Descriptions	Test Method as per IS	Test Result	Requirements as per IS: 12269-1987
1	a) Initial Setting Time	IS-4031 (Part-5)	39 Minutes	Not Less than 30 Minutes
	b) Final Setting Time	IS-4031 (Part-5)	390 Minutes	Not More than 600 Minutes
2	Soundness	IS-4031 (Part-3) By the Le-Chatelier method	5mm	Not More than 10 mm
3	Standard Consistency	IS-4031 (Part-4)	28.00%	

Consultant Representative

AE (WO7)

Assistant Executive Engineer
Kadugondanahalli Sub Division
Bruhat Bangalore Mahanagara Palike
Bangalore - 560 045

TEJUS CONSULTANTS

M/s. RAM & COMPANY

TEJUS
CONSULTANTS

TEST REPORT

Clients	Bruhat Bangalore Mahanagara Palike	
Project	Improvements to Roads and Drains at Jakkur Layout, BGS Layout, and Surrounding Areas in Ward No 7 Thanisandra, Byatarayanapura Sub Divison.	
Consultants	TEJUS CONSULTANTS Basaveshwar Nagar Bangalore	
Contractor	M/s.Ram and Company	
Total Weight:	10000	gms

SIEVE ANALYSIS

Type of Material	12.5 mm down size		Proposed Use	concrete	
Sample Location	Plant		Date of Sampling	03.03.18	
			Date of Testing	03.03.18	
IS Sieve Size (in mm)	Weight Retained	Cum. Weight Retained	Cum. % Retained	Cum. % Passing	Spec. Limit (%) Passing
20.0	0	0	0	100	100
12.5	585	585	5.85	94.15	90-100
10.0	3350	3935	39.35	60.65	40-85
4.75	5485	9420	94.20	5.80	0-10
Pan	580	10000			

Remarks :	Satisfactory / Not Satisfactory

AE(W7)

Assistant Executive Engineer
Kodigehalli Sub Division
Bruhat Bangalore Mahanagara Palike
Bangalore - 560 092

TEJUS CONSULTANTS

Consultant's Representative

M/S RAM & COMPANY

TEJUS
CONSULTANTS

TEST REPORT

Clients	BRUHAT BENGALORE MAHANAGARA PALIKE
Project	Improvements to Roads and Drains at Jakkur Layout, BGS Layout, and Surrounding Areas in Ward No 7 Thanisandra, Byatarayanapura Sub Divison.
Consultants	TEJUS CONSULTANTS Basaveshwar Nagar Bangalore
Contractor	M/s.Ram and Company

SPECIFIC GRAVITY AND WATER ABSORPTION

FINE AGGREGATE (IS-2386-PART-3)

Type of Material	**Sand/M sand**	**Proposed Use**	Concrete
Location/Source	**At Plant/site**	**Date of Sampling**	20.04.18
Period of Soaking	**24 hours**	**Date of Testing**	20.04.18

Sl. No.	Test Property	TRIAL - 1	TRIAL - 2	TRIAL - 3	Average
A	Weight of sturated surface dry sample gm.	662	663	674	
B	Weight of oven - dry sample gm.	656	658	668	
C	Weight of Pycnometer Filled with water gm	1275	1275	1275	
D	Weight of Pycnometer + sample + water gm	1693	1691	1696	
E	Bulk specific gravity $\frac{B}{(C+A-D)}$	2.689	2.664	2.640	**2.664**
G	Absorption (%) $\frac{(A-B)*100}{B}$	0.915	0.760	0.898	**0.858**

TEJUS CONSULTANTS

AE(WT)

Assistant Executive Engineer
Kodigehalli Sub Division
Bruhat Bangalore Mahanagara Palike
Bangalore - 560 092

M/S RAM & COMPANY

TEJUS
CONSULTANTS

TEST REPORT

Clients	Bruhat Bangalore Mahanagara Palike
Project	Improvements to Roads and Drains at Jakkur Layout, BGS Layout, and Surrounding Areas in Ward No 7 Thanisandra, Byatarayanapura Sub Divison.
Consultants	TEJUS CONSULTANTS Basaveshwar Nagar Bangalore
Contractor	M/s.Ram and Company

SIEVE ANALYSIS

Total Weight:	**3000** gms				
Type of Materia	**Fine aggregate (River Sand/M sand)**		**Proposed Use**	Concrete	
Sample Location	At Plant/site		**Date of Sampling**	20.04.18	
			Date of Testing	20.04.18	
IS Sieve Size	**Weight Retained**	**Cum. Weight Retained**	**Cum. % Retained**	**Cum. % Passing**	**Spec. Limit (%) Passing (Zone-II)**
10.00 mm	0	0	0	100.00	**100**
4.75 mm	245	245	8.17	91.83	**90 - 100**
2.36 mm	276	521	17.37	82.63	**75 - 100**
1.18 mm	517	1038	34.60	65.40	**55 - 90**
0.600 mm	545	1583	52.77	47.23	**35 -59**
0.300 mm	662	2245	74.83	25.17	**8-30**
0.150 mm	515	2760	92.00	8.00	**0 - 10**
Pan	240	3000			-

Remarks : Satisfactory / Not Satisfactory

TEJUS CONSULTANTS

Consultant's Representative

AE(W)

Assistant Executive Engineer
Kodigehalli Sub Division
Bruhat Bangalore Mahanagara Palike
Bangalore - 560 092

M/S RAM & COMPANY

TEJUS
CONSULTANTS

Test report on Compressive strength of concrete cubes

Project	Improvements to Roads and Drains at Jakkur Layout, BGS Layout, and Surrounding Areas in Ward No 7 Thanisandra, Byatarayanapura Sub Divison.
Client	Bruhat Bangalore Mahanagar Palike
Consultant	TEJUS CONSULTANTS
Contractor	M/s.Ram and Company
Grade of concrete:	M20
Size of cube:	150x150x150 mm
Reference IS code:	IS:516-1959

Sl.No.	Date of Casting	Date of testing	Age of Test	Weight of Cube	Area of Cube	Failure load	Compressive strength	Avg. Compressive strength
				Kg	mm^2	KN	N/mm^2	N/mm^2
1	20.04.18	27.04.18	7 days	8.600	22500	302	13.42	13.56
2	20.04.18	27.04.18	7 days	8.598	22500	308	13.69	
3	20.04.18	27.04.18	7 days	8.580	22500	305	13.56	

AE (WZ)

Assistant Executive Engineer
Kodigehalli Sub Division
Bruhat Bangalore Mahanagara Palike
Bangalore - 560 092

TEJUS CONSULTANTS

M/S. RAM & COMPANY

TEJUS
CONSULTANTS

Test report on Compressive strength of concrete cubes

Project	Improvements to Roads and Drains at Jakkur Layout, BGS Layout, and Surrounding Areas in Ward No 7 Thanisandra, Byatarayanapura Sub Divison.
Client	Bruhat Bangalore Mahanagar Palike
Consultant	TEJUS CONSULTANTS
Contractor	M/s.Ram and Company
Grade of concrete:	M20
Size of cube:	150x150x150 mm
Reference IS code:	IS:516-1959

Sl.No.	Date of Casting	Date of testing	Age of Test	Weight of Cube	Area of Cube	Failure load	Compressive strength	Avg. Compressive strength
				Kg	mm^2	KN	N/mm^2	N/mm^2
1	20.04.18	18.05.18	28 days	8.832	22500	459	20.40	20.44
2	20.04.18	18.05.18	28 days	8.858	22500	460	20.44	
3	20.04.18	18.05.18	28 days	8.720	22500	461	20.49	

AE(HQ)

Assistant Executive Engineer
Kodigehalli Sub Division
Bruhat Bangalore Mahanagara Palike
[illegible] 092

TEJUS CONSULTANTS

M/s RAM & COMPANY